Forest Health Protection









Numbered Report 08-05

May 2008

2006 NORTH IDAHO DOUGLAS-FIR TUSSOCK MOTH TRAPPING SYSTEM REPORT

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INTRODUCTION

The Douglas-fir tussock moth (DFTM) Early Warning System (EWS) in north Idaho is a cooperative effort between the USDA Forest Service (FS) and Idaho Department of Lands (IDL). This system uses a series of permanent pheromone trapping sites to identify increasing populations of DFTM prior to an outbreak and tree defoliation (Daterman et al. 1979). IDL maintains DFTM trap sites from Coeur d'Alene to Moscow; the Northern Region of the FS maintains trap sites from Lewiston east and south to the Salmon River.

A pheromone trap site consists of five sticky traps baited with the DFTM attractant pheromone. Male moths are attracted to and caught in the traps. An average of 25 male moths per site is used as a threshold to alert managers to rising DFTM populations. Additional population measurements, such as larval or egg mass sampling, is then conducted in areas of concern surrounding the trap site to determine the status of the population (Daterman et al. 1979).

METHODS

2006 Trapping Results

Of 51 sites trapped by IDL, the average trap catch was 0.33 moths per trap, up from 0.004 moths per trap in 2005 and 0.02 moths per trap in 2004 (Appendix 1). There were no sites with an average of 25 moths per trap in 2006. The sites with the highest number of moths caught in 2006 were near East Fork Flat Creek, with an average of 2.6 moths per trap.

Twenty six moths were caught on the 26 Forest Service-monitored sites south of Lewiston (Appendix 2), for a total average of 0.2 moths. Sites with the highest catch numbers were Bald Mountain (plot ID 17.0) and Grangemont (plot ID 23.0), with nine moths and seven moths, respectively. Eleven moths were caught on the 6 sites near Potlatch for a total average of 0.4 moths (Appendix 2). Six were trapped at Little Boulder Creek (plot ID 35.0), four at West Fork Potlatch Road (plot ID 36.0), and one at Elk



Creek Falls (plot ID 37.0).

Defoliation

There was no aerially detected DFTM-caused defoliation in north Idaho in 2006. The most recent outbreak in North Idaho (2000-2002) caused significant defoliation on the Clearwater National Forest, and on adjacent state and private lands

between Moscow and Plummer (fig. 1). DFTM outbreaks have occurred in this same general area about every 10 years since the 1940's (Randall 2002, Tunnock 1973). An outbreak prior to the most recent one occurred with defoliation during only 1 year—1986. Both outbreaks were preceded by increasing numbers of moths caught in traps (fig. 1).

Douglas-fir Tussock Moth Trap Catches and Defoliation North Idaho (IDL)

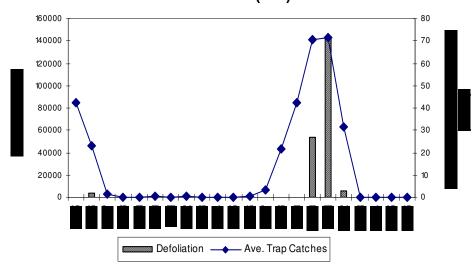


Figure 1. Average trap catches by IDL north of Moscow and aerially detected defoliation for the last two DFTM outbreaks (adapted from Kegley et al., 2004).

CONCLUSIONS

The DFTM, EWS is effective in predicting outbreaks, but its design and intent does not define where defoliation events will occur (Sheehan and Ragenovich 2002). Land managers, with consultation from local entomologists, will need to identify and prioritize areas where management objectives are most vulnerable to significant defoliation impacts. In areas where an insecticide application may be considered to mitigate impacts, cocoon and/or larval sampling should be conducted to estimate current DFTM populations (Brooks et al. 1978).

In north Idaho, the EWS proved effective in predicting the two latest DFTM outbreaks, which were preceded by 3 years of increasing trap catches. However, intensity of the outbreaks could not be predicted by trapping alone. Trap catches preceding defoliation in 1986 were about the same as those preceding defoliation in 2000. But intensity of the two outbreaks was very different (Kegley et al. 2004). This confirms the need for additional population sampling (egg mass or larval sampling) to help predict trends of outbreaks (Mason and Torgersen 1983).

Trapping for Douglas-fir tussock moth will continue annually but we expect trap catches to remain very low for the next several years.

LITERATURE CITED

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Appendix 1. Average trap catch for IDL monitored sites from Coeur d'Alene to Moscow for the past 7 years.

#	AREA	2006	2005	2004	2003	2002	2001	2000
1	Elk Mountain	*	*	0.0	*	*	*	13.8
2	Coeur d'Alene Mountain	*	*	0.0	*	*	*	8.4
3	Lolo Pass	0.0	0.0	0.0	0.0	8.2	110.2	91.8
4	Charles Butte	0.0	0.0	0.0	0.2	28.2	84.8	73.6
5	Peterson Point	*	0.0	0.0	0.2	15.8	101.0	56.4
6	East Dennis	0.0	0.0	0.0	1.2	75	101.2	81.2
7	East Gold Hill	0.0	0.0	0.0	0.2	14.8	53.8	83.6
8	Flat Creek	0.4	0.0	0.2	0.0	7.6	88.0	87.6
9	Long Creek	0.2	0.0	0.0	0.2	33.6	0.2	105.4
10	Paradise Point	0.2	0.0	0.0	0.0	17	91.8	81.2
11	Mineral Mountain	0.0	0.0	0.0	1.8	75.2	56.4	73.4
12	Mission Mountain	1.2	0.0	0.0	0.2	25.6	1.6	65.6
13	Spring Valley Creek	*	0.0	0.0	0.0	5.4	58.0	61.2
14	Vassar Meadows	0.0	0.0	0.0	0.0	95.8	102.8	83.2
15	Fairview Knob	0.0	0.0	0.0	0.2	39	105.8	33.2
21	West Twin (10-115)	*	0.0	0.0	0.0	8.8	75.4	*
22	Moscow Mtn (115-114)	0.0	0.0	0.0	0.2	5.8	78.0	90.8
101	S Fk Little Plummer Ck	1.4	0.0	0.0	2.8	52.2	92.4	70.0
102	Windfall Pass	0.6	0.0	0.0	0.6	40.4	99.6	74.2
103	Squaw Creek	*	0.0	0.0	0.2	9.4	89.2	55.2
104	Moses Mountain	0.0	0.0	0.0	0.2	6.4	67.8	19.0
105	Little John Creek	0.0	0.0	0.0	1.4	45	78.4	54.8
106	Emida Peak	0.0	0.0	0.2	2.6	64.2	75.8	71.0
107	North-South Ski Area	0.0	0.0	0.0	0.6	83.2	107.2	73.6
108	Bald Mountain	*	0.0	0.0	0.0	25.2	53.8	5.2
109	Laird Park	0.0	0.0	0.0	1.0	66	86.0	74.8
110	North Fork Palouse River	0.0	0.0	0.0	1.0	83.2	75.2	24.8
111	Mica Mountain	0.0	0.0	0.0	0.2	67.6	93.6	81.0
112	Schwartz Creek	0.0	0.0	0.0	0.2	80.6	110.6	89.0
113	Big Bear Creek	0.6	0.0	0.0	0.2	47.8	87.0	71.4
114	Big Meadow Creek	0.2	0.0	0.0	0.0	11.2	70.2	108.6
115	East Twin Mountain	0.2	0.0	0.0	0.0	7.6	85.4	87.4
116	Crane Point	*	0.0	0.0	0.0	51	89.0	63.2
117	Sheep Creek	0.2	0.0	0.0	0.0	27.8	83.2	79.2
118	West Fork Mission Creek	*	0.0	0.0	0.0	22.2	47.6	37.0
119	1 Mi N. of Mineral Mtn (11-216)	*	0.0	0.0	0.0	25.2	0.2	82.8
200	2 mi W of Plummer	*	0.0	0.0	0.0	16.2	80.2	25.0
201	Coon Creek	2.0	0.0	0.4	0.2	21.6	93.8	50.8
202	3 mi E of Benewah	0.2	0.0	0.0	0.6	21	102.2	*
203	Benewah Point	*	0.0	0.0	0.0	8.2	92.4	53.0
204	John's Point	*	0.0	0.0	0.0	23.8	*	*
205	3 mi E of Charles Butte	0.0	0.2	0.2	0.4	63.6	72.6	64.8
206	Sunset Mountain	*	0.0	0.0	0.0	20.8	*	*

208 Cedar Butte	207	Emorald Butto	*	0.0	0.0	0.0	23.2	*	*
Plot		Emerald Butte	*						
AREA 2006 2005 2004 2003 2002 2001 2000 210 West Fork Deep Creek 0.0.2 0.0 0.0 0.0 0.2 77 90.6 91.5 211 Cherry Butte 0.0 0.0 0.0 0.0 0.0 19.6 50.6 50.6 50.6 10.6 10.0 19.6 10.0			*						
# AREA 2006 2005 2004 2003 2002 2001 2000 2010 2000 2011 2000 2011 2000 2011 2000 2011 2000 2011 2000 2011 2000 2011 2000 2011 2000 2011	209	Abes Knob					23.8	88.4	"
210 West Fork Deep Creek									
211 Cherry Butte									
212 Jackson Mountain									
212 Red Fores Mountain								88.6	50.6
New Prison Mountain			*					*	*
Pullet Cleak			*	*		*			
216 mil NW of Minoral Mtn 0.4 0.0 0.0 0.2 1 0.2 93.0 217 Head of Sheep Creek (216-117-2) 0.2 0.0 0.0 0.6 21.2 97.2 101.8 300 Mission Mountain (#2) 0.4 0.0 0.0 0.6 6.4 67.0 77.1 301 1.5 mi S of Minoral Mtn 0.2 0.0 0.0 0.2 0.2 69.4 91.2 107.6 302 Middle Fork of Deep Creek 1 (301-216-1) 0.0 0.0 0.0 0.0 63.8 3.6 89.8 303 Middle Fork of Deep Creek 2 (301-216-3) 0.4 0.0 0.2 1.0 58 15.8 99.6 400 3 mi S of Minoral Mtn 0.2 0.0 0.0 0.0 63.8 3.6 89.8 401 Symbol Mountain (#2) 0.0 0.0 0.0 0.0 57.5 86.6 108.6 402 2 mi SE of Browns Mdw 0.2 0.0 0.0 0.0 3.2 95.2 96.4 67.8 402 2 mi SE of Browns Mdw 0.2 0.0 0.0 0.0 15.2 57.4 112.0 500 3 mi SW of Harvard 0.2 0.0 0.0 0.0 16.2 97.6 70.0 501 2 mi S of Minoral Point 0.0 0.0 0.0 0.6 67.6 75.0 502 3 mi N of Stanford Point 0.0 0.0 0.0 0.0 16.2 97.6 70.0 504 2 mi N of Stanford Point 0.4 0.0 0.0 0.2 47.8 86.2 75.8 505 1 mi SW of Stanford Point 0.0 0.0 0.0 0.0 38.4 47.0 506 1 mi S of Stanford Point 0.0 0.0 0.0 0.0 38.4 47.0 507 1 mi NE of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 508 1 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 509 2 mi NW of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 500 1 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 501 1 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 502 2 mi NW of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 503 1 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 504 2 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 505 2 mi NW of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 506 1 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 0.0 507 2 mi N of Stanford Point 0.0 0.0 0.0 0.0 0.0 508 3 mi N of Stanford Point 0.0 0.0			*	*		*			
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Mindule Fulk of Deep Creek 10.8 39.0	302	Middle Fork of Deep Creek 1 (301-216-1)					63.8	3.6	89.8
A011 Flynn Butte	303	Middle Fork of Deep Creek 2 (301-216-3)					58	15.8	99.6
17 17 17 17 17 17 17 17	400	3 mi S of Mineral Mtn					75.8	86.6	108.6
102 2111 St of Moon Hill 12 13 2 14 2 15 2 16 2 17	401	Flynn Butte					95.2	96.4	67.8
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2 1 1 1 1 2 2 3 4 47.0 88.0	503	3 mi N of Stanford Point	*				10.2	89.4	84.0
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508 1 mi W of Stanford Point 0.2 0.0 0.0 0.0 20.6 92.4 95.2 509 2 mi NW of Stanford Point 0.6 0.2 0.4 0.4 43.2 81.6 95.6 510 Moon Hill 0.2 0.0 0.0 0.8 35 67.2 66.2 511 2 mi SE of Moon Hill 0.0 0.0 0.2 13.2 80.4 72.6 512 3 mi S of Mineral Mtn 0.0 0.0 0.2 70.2 * 513 2 mi SW of Moon Hill * 0.0 0.0 9.6 9.2 75.8 514 1.5 mi NW of Avon * 0.0 0.0 9.6 9.2 75.8 514 1.5 mi NW of Elk Mtn * 0.0 0.0 6.8 61.4 68.6 601 1 mi NW of Elk Mtn * 0.0 * * 8.4 602 Pleasant Creek * 0.0 * * 8.4	506	1 mi S of Stanford Point	*	0.0	0.0	0.0	23.4	67.8	70.6
Solution Stanford Point O.6 O.2 O.4 O.4 O.4 O.5	507	1 mi NE of Stanford Point			0.0	0.8	40.6	87.4	97.4
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513 2 mi SW of Moon Hill 0.0 0.0 0.0 9.6 9.2 75.8 514 1.5 mi NW of Avon 0.0 0.0 0.0 6.8 61.4 68.6 601 1 mi NW of Elk Mtn 0.0 0.0 0.0 0.4 8.4 602 Pleasant Creek 0.0 0.0 0.0 0.4 0.4 603 West Fork Fortier Creek 0.0 0.0 0.0 0.0 0.4 0.4 604 Elk Mountain 0.0 0.0 0.0 0.0 0.0 0.0 15.4 605 Rose Creek 0.0 0.0 0.0 0.0 9 88.6 46.4 701 Fourmile Creek 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek 0.0 0.0 0.0 12.2 96.6 92.4 704 </td <td>512</td> <td>3 mi S of Mineral Mtn</td> <td>*</td> <td>0.0</td> <td>0.0</td> <td>0.2</td> <td>70.2</td> <td>*</td> <td>*</td>	512	3 mi S of Mineral Mtn	*	0.0	0.0	0.2	70.2	*	*
514 1.5 mi NW of Avon 0.0 0.0 6.8 61.4 68.6 601 1 mi NW of Elk Mtn * * 0.0 * * 8.4 602 Pleasant Creek * * 0.0 * * 0.4 603 West Fork Fortier Creek * 0.0 * * 3.2 604 Elk Mountain * 0.0 * * * 15.4 605 Rose Creek * 0.0 0.0 0.0 9 88.6 46.4 701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 <td>513</td> <td>2 mi SW of Moon Hill</td> <td>*</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>9.6</td> <td>9.2</td> <td>75.8</td>	513	2 mi SW of Moon Hill	*	0.0	0.0	0.0	9.6	9.2	75.8
601 1 mi NW of Elk Mtn 0.0 * * 8.4 602 Pleasant Creek * * 0.0 * * 0.4 603 West Fork Fortier Creek * 0.0 * * * 3.2 604 Elk Mountain * * 0.0 * * * 15.4 605 Rose Creek * 0.0 0.0 * * 8.2 701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0	514	1.5 mi NW of Avon	*	0.0	0.0	0.0	6.8	61.4	68.6
602 Pleasant Creek * * 0.4 603 West Fork Fortier Creek * * 0.0 * * 3.2 604 Elk Mountain * * 0.0 * * 15.4 605 Rose Creek * 0.0 0.0 * 82 701 Fourmile Creek * 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 707 Iron Mtn * 0.0 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *	601	1 mi NW of Elk Mtn	*	*	0.0	*	*	*	8.4
603 West Fork Fortier Creek 0.0 * * 3.2 604 Elk Mountain * * 0.0 * * 15.4 605 Rose Creek * 0.0 0.0 * * 8.2 701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0	602	Pleasant Creek	*	*	0.0	*	*	*	0.4
604 Elk Mountain * * 0.0 * * 15.4 605 Rose Creek * 0.0 0.0 * * 8.2 701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0 65.6 108.6 * 708 Little Bear Creek * 0.0	603	West Fork Fortier Creek	*	*	0.0	*	*	*	3.2
605 Rose Creek * * 0.0 * * * 8.2 701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0 65.6 108.6 * 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *	604		*	*	0.0	*	*	*	15.4
701 Fourmile Creek * 0.0 0.0 0.0 9 88.6 46.4 702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *	605		*	*	0.0	*	*	*	
702 North of Granite Point * 0.0 0.0 0.0 5.8 76.0 81.6 703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *			*	0.0	0.0	0.0	9	88.6	
703 Spring Valley Creek * 0.0 0.0 0.0 12.2 96.6 92.4 704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 65.6 108.6 *			*	0.0	0.0	0.0			
704 West Fork Big Bear Creek 0.2 0.0 0.0 0.2 13.2 61.0 41.4 705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *			*	0.0	0.0	0.0			
705 2 Mi NW of Stanford PT 0.8 0.0 0.0 0.4 46.4 89.4 84.6 706 1 Mi S. of Iron Mtn * 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 65.6 108.6 *			0.2	0.0	0.0	0.2			
706 1 Mi S. of Iron Mtn * 0.0 0.0 27.2 87.8 22.2 707 Iron Mtn * 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 65.6 108.6 *		9	0.8	0.0	0.0	0.4			
707 Iron Mtn * 0.0 0.0 0.0 6.6 97.0 23.0 708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *			*	0.0	0.0	0.0			
708 Little Bear Creek * 0.0 0.0 0.0 65.6 108.6 *			*	0.0	0.0	0.0			
700 Ettile Bear Greek			*	0.0	0.0	0.0			
	709	Quartz Creek	*	0.0	0.0	0.0	50.4	96.2	*

710	Turnbow Creek	1.4	0.0	0.0	0.2	43	70.6	*
711	East Fork Flat Creek	2.6	0.0	0.0	0.2	55	71.4	85.8
712	Turnbow Point	*	0.0	0.0	0.2	7.8	38.0	79.4
712	3 Mi S. of Potlatch	*	0.0	0.0	0.0	6.6	30.0	4.2
714	Rocky Point	*	0.0	0.0	0.0	13.2	79.6	40.2
714	nocky Foliit					13.2	79.0	40.2
Plot	ADEA	0000	0005	0004	0000	0000	0001	0000
# 715	AREA Lighter Creek	2006 0.6	2005 0.0	2004 0.0	2003 0.2	2002 7.4	2001	2000
715 716	Hatter Creek Head of Big Meadow Creek	*	0.0	0.0	0.0	11.8	32.0 80.8	22.4 82.4
		*	0.0	0.0	0.0			
717	Nora Creek	*	0.0	0.0	0.0	21.2	81.4	58.4
718	Crummaring Creek	*	0.0	0.0	0.0	12.4 19	70.4	68.8
719	Basalt Hill	0.0	0.0	0.2	0.2		11.6	92.8
720	Browns Meadow	*	0.0	0.0	0.0	11.2	2.6	97.6
721	Smith Creek	*	0.0	0.0	0.0	100.2	70.6	
722	Prospect Peak	*	0.0	0.0	0.0	31.2	56.8	85.6
723	West Fork Mission Creek	*	0.0	0.0	0.0	27.8	22.2	87.4
724	Huckleberry Mtn	*	0.0	0.0	0.0	16.6	77.2	43.4
725	North Fork Pine Creek	*	0.0	0.0	0.0	21.6	93.0	15.0
726	Mineral Creek	*	0.0	0.0	0.0	20.2	78.0	76.2
727	South of Sanders	*	*	0.0	0.0	77.8	86.8	32.4
800	Mason Butte	*	*	0.0	0.0	20.8	63.0	*
801	Moctileme Butte	*	*	0.0	0.0	30.2	91.4	*
802	Plummer Butte	*	*	0.0	0.0	24.8	75.2	*
803	Little Plummer Creek	*		0.0	0.0	18	54.4	
804	Lindstrom Peak		*	0.0	0.0	21.2	66.4	*
805	John Point	*	*	0.0	0.0	20.4	61.6	*
806	Pettis Point			0.0	0.0	22.6	71.2	
807	Beaver Mtn	*	*	0.0	0.0	17.8	55.6	*
808	Renfro Peak	*	*	0.0	0.0	14.8	44.2	*
809	Crystal Peak	*	*	0.0	0.0	10.4	29.4	*
810	Head of Child Creek	*	*	0.0	0.0	17.2	52.8	*
811	Hobo Pass	*	*			7.8	25.4	*
812	Hemlock Butte	*	*	0.0	0.0	9.2	28.2	*
813	Carpenter Peak	*	*	0.0	0.0	18.8	57.8	*
814	Tyson Creek	*	*	0.0		30.2	87.6	*
815	Willow Peak	*	*	0.0	0.0	25.2	85.2	*
816	Sunset Mtn	*	*	0.0		31	86.2	*
817	Willow Creek	*	*		0.0	22.2	73.2	*
818	Head of Emerald Creek	*	*	0.0	0.0	28.2	86.0	*
819	Emerald Butte	*	*	0.0	0.0	25	75.2	*
820	Head of Bobs Creek	*	*			25.4	79.0	*
821	East Fork of Potlatch River	*	*	0.0	0.0	25.2	67.2	*
822	Head of Moose Creek	*	*	0.0	0.0	24.8	69.6	*
823	Beals Butte	*	*	0.0	0.0	39	106.2	*
	* not trapped							
	Total Average	0.3	0.0	0.02	0.2	31.3	71.5	70.4

Appendix 2. Average trap catch for FS monitored sites south of Lewiston for the past 11 years, and 6 sites trapped in 2002-2006 near Potlatch.

2.0 Johnson	Plot ID	Site Name	Site #	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
20	1.0	Keuterville	3-1	0.0	0.0	0.0	0.0	0.0	2.2	0.0	1.6	0.6	0.0	0.0
300 Summit Landing 5-6 0.6 0.0 0.0 0.2 0.0 14.6 0.4 0.8 0.2 0.0 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.2 8.0 0.0 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.1 3.1 3.2 0.2 3.6 5.6 0.0 0.0 0.0 0.0 0.0 0.0 0.1 3.1 3.2 0.2 3.6 5.6 0.0	2.0	Johnson	5-1											0.0
40 Cottonwood Butte 3-2 0.0 0.0 0.0 0.0 0.0 2.8 0.0 0.4 0.0	3.0	Summit Landing	5-6											0.0
Shin Pt	4.0	Cottonwood Butte	3-2											0.0
Google	5.0	Shin Pt	5-7											0.0
Total Carbon Tota	6.0	Cooper	5-10											0.0
8.0 Skull Cr	7.0	Lake Waha	4-1											0.0
90 Canyon Junction 6-1 0.0 0.0 0.0 0.0 0.8 11.2 * 0.0 * 0.0 * 0.0 11.0 Forest 4-6 * 0.0 0.0 0.0 * * * * * 0.0 0.6 0.0 0.0 0.0 11.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1.4 0.0 0.5 0.0 0.0 0.0 1.4 0.0 0.4 0.4 0.0 0.0 13.0 Webb Cr 4-5 0.0 * 0.0 0.0	8.0	Skull Cr	5-9											0.0
10.0 Forest	9.0	Canyon Junction	6-1	0.0	0.0		0.0	0.8	11.2					0.0
11.0 Swanson Cr 5-8 0.6 0.0 0.0 1.4 0.0 17.5 0.0 1.4 0.8 0.0 12.0 Fan saddle 6-2 0.0 0.0 0.0 0.0 0.0 0.2 0.6 1.0 0.4 0.4 0.0 13.0 Webb Cr 4-5 0.0 * 0.0 0.0 0.0 0.0 1.4 0.0 0.2 0.0 0.0 14.0 Angel Butte 5-2 0.0 0.0 0.0 0.0 0.4 0.8 5.8 0.2 2.2 2.2 0.0 15.0 Lodge Pr 1-1 0.0 0.0 0.0 0.0 0.2 1.2 1.6 0.4 4.6 3.2 0.0 15.0 Black Pine 4-2 0.0 0.0 0.0 0.0 2.2 18.2 0.0 0.4 0.0 0.0 17.0 Bald Mm 5-5 1.8 0.0 0.0 0.2 9.0 36.0 0.0 3.2 0.4 0.0 18.0 Big Tinker 1-5 0.2 0.0 0.0 0.0 0.0 0.6 1.4 1.6 2.5 0.2 0.0 19.0 Junction 4-3 0.0 0.0 0.0 0.0 0.0 0.6 1.4 1.6 2.5 0.2 0.0 20.0 Bargamin Cr 5-4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 21.0 Potatoe Hill 1-4 0.0 0.0 0.0 0.0 0.0 0.2 3.6 0.0 0.0 0.0 0.0 22.0 Captain John 4-4 0.0 0.0 0.0 0.0 0.2 3.6 0.0 0.0 0.0 23.0 Grangemont 5-3 1.4 0.0 0.0 0.0 0.2 3.6 0.0 0.0 0.0 0.0 24.0 Pinc Knob 1-3 0.2 0.0 0.0 0.0 0.0 0.0 8.0 0.0 2.8 3.4 0.0 25.0 Christic Cr 2-2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 27.0 Cow Cr Saddle 2-3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 28.0 Rhett Cr 2-1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 30.0 Goddard 1-2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 31.0 Wickiup B 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 33.0 Laird Park 7-1 0.0 0.0 0.0 0.0 0.0 0.2 2.2 0.0 0.0 0.0 33.0 Laird Park 7-1 0.0 0.	10.0	Forest	4-6							0.0		0.0		0.0
12.0 Fan saddle	11.0	Swanson Cr	5-8	0.6			1.4	0.0	17.5					0.0
13.0 Webb Cr	12.0	Fan saddle	6-2											0.2
14.0 Angel Butte	13.0	Webb Cr	4-5											0.0
15.0 Lodge Pt	14.0	Angel Butte	5-2		0.0									0.0
16.0 Black Pine	15.0	Lodge Pt	1-1											0.0
17.0 Bald Mtn 5-5 1.8 0.0 0.0 0.2 9.0 36.0 0.0 3.2 0.4 0.0 18.0 Big Tinker 1-5 0.2 0.0 0.0 0.0 0.0 0.6 1.4 1.6 2.5 0.2 0.0 19.0 Junction 4-3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 20.0 Bargamin Cr 5-4 0.0 0.0 0.0 0.0 0.0 4.8 35.6 0.0 0.0 0.0 0.0 21.0 Potatoe Hill 1-4 0.0 0.0 0.0 0.0 0.0 0.2 3.6 0.0 0.0 0.0 22.0 Captain John 4-4 0.0 0.0 0.0 0.0 0.0 0.2 3.6 0.0 * 0.8 0.0 23.0 Grangemont 5-3 1.4 0.0 0.0 0.0 0.0 0.2 3.6 0.0 * 0.8 0.0 24.0 Pine Knob 1-3 0.2 0.0 0.0 0.0 0.0 1.0 4.8 0.0 2.8 3.4 0.0 25.0 Christie Cr 2-2 0.0 0.0 0.0 0.0 0.0 8.0 0.0 0.0 0.0 26.0 S. Cow Cr 2-5 0.0 0.0 0.0 0.0 0.0 0.0 1.8 0.0 0.0 0.0 27.0 Cow Cr Saddle 2-3 * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 28.0 Rhett Cr 2-1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 30.0 Goddard 1-2 * * 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 31.0 Wickiup B * * * * * * * * *	16.0	Black Pine	4-2											0.0
18.0 Big Tinker	17.0	Bald Mtn	5-5				0.2							0.0
19.0 Junction	18.0	Big Tinker	1-5											0.0
20.0 Bargamin Cr	19.0	Junction	4-3											0.0
21.0 Potatoe Hill	20.0	Bargamin Cr	5-4						35.6					0.0
22.0 Captain John	21.0	Potatoe Hill	1-4											0.0
23.0 Grangemont 5-3 1.4 0.0 0.0 0.4 2.2 16.2 0.0 1.2 0.6 0.0 24.0 Pine Knob 1-3 0.2 0.0 0.0 0.0 0.0 1.0 4.8 0.0 2.8 3.4 0.0 25.0 Christic Cr 2-2 0.0 0.0 0.0 0.0 0.0 0.0 8.0 0.0 0.0 0.0 0.0 26.0 S. Cow Cr 2-5 0.0 0.0 0.0 0.0 0.0 0.0 1.8 0.0 0.0 0.0 0.0 27.0 Cow Cr Saddle 2-3 * 0.0 0.0 0.0 0.0 0.2 0.2 0.0 * 0.2 0.0 28.0 Rhett Cr 2-1 0.0 0.0 0.0 0.0 0.0 0.0 0.4 0.0 0.0 0.0 0.0 29.0 Low Saddle 2-4 0.4 0.0 0.0 0.0 0.0 0.0 0.4 0.0 0.0 0.0 0.0 30.0 Goddard 1-2 * * * 0.0 * * * * * 0.0 0.0 0.0 0.0 31.0 Wickiup B * * * * * * * * *	22.0	Captain John	4-4											0.0
24.0 Pine Knob	23.0	Grangemont	5-3								1.2			0.0
25.0 Christie Cr	24.0	Pine Knob	1-3		0.0	0.0							0.0	0.0
26.0 S. Cow Cr 2-5 0.0 0.0 0.0 0.0 0.0 0.0 1.8 0.0 0.0 0.0 0.0 0.0	25.0	Christie Cr	2-2											0.0
27.0 Cow Cr Saddle 2-3 * 0.0 0.0 0.2 0.2 0.0 * 0.2 0.0 28.0 Rhett Cr 2-1 0.0	26.0	S. Cow Cr	2-5											0.0
28.0 Rhett Cr 2-1 0.0 0.0 0.0 0.0 0.0 0.4 0.0	27.0	Cow Cr Saddle	2-3											0.0
29.0 Low Saddle 2-4 0.4 0.0 0.0 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.0 0.4 0.0 0.	28.0	Rhett Cr	2-1	0.0	0.0						0.0			0.0
30.0 Goddard 1-2 *	29.0	Low Saddle	2-4	0.4	0.0	0.0	0.0	0.0		0.0	0.0	0.4	0.0	0.0
31.0 Wickiup B	30.0	Goddard	1-2		*									0.0
32.0 Craigmont	31.0	Wickiup B		*	*		*	*	*				0.0	0.0
Total Average of sites 0.2 0.0 0.03 1.0 8.3 0.5 1.3 0.9 0.0 0.01 33.0 Laird Park 7-1 0.0 0.0 0.0 0.0 52.2 34.0 Little Bald Mtn. 7-2 0.0 0.0 0.0 0.2 22.0 35.0 Little Boulder Cr. 7-3 1.2 0.0 0.0 0.4 40.4 36.0 W.Fork Potlatch R. 7-4 0.8 0.6 0.0 2.4 40.4 37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8 38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5	32.0	Craigmont		*	*	*	*	*	*				0.0	0.0
33.0 Laird Park 7-1 0.0 0.0 0.0 0.0 52.2		Total Average of sites												
33.0 Laird Park 7-1 0.0 0.0 0.0 0.0 52.2 34.0 Little Bald Mtn. 7-2 0.0 0.0 0.0 0.2 22.0 35.0 Little Boulder Cr. 7-3 1.2 0.0 0.0 0.4 40.4 36.0 W.Fork Potlatch R. 7-4 0.8 0.6 0.0 2.4 40.4 37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8 38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5		south of Lewiston		0.2	0.0	0.03	1.0	8.3	0.5	1.3	0.9	0.0	0.01	0.0
34.0 Little Bald Mtn. 7-2 0.0 0.0 0.0 0.2 22.0 35.0 Little Boulder Cr. 7-3 1.2 0.0 0.0 0.4 40.4 36.0 W.Fork Potlatch R. 7-4 0.8 0.6 0.0 2.4 40.4 37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8 38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5	33.0	Laird Park	7-1						3.0	3.0			0102	
35.0 Little Boulder Cr. 7-3 1.2 0.0 0.0 0.4 40.4 36.0 W.Fork Potlatch R. 7-4 0.8 0.6 0.0 2.4 40.4 37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8 38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5	34.0	Little Bald Mtn.	7-2											
36.0 W.Fork Potlatch R. 7-4 0.8 0.6 0.0 2.4 40.4 37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8 38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5	35.0	Little Boulder Cr.	7-3											
37.0 Elk Creek Falls 7-5 0.2 0.4 0.0 4.8 15.8	36.0	W.Fork Potlatch R.	7-4											
38.0 Morris Creek 7-6 0.0 0.0 0.0 0.2 26.5 Total Average of sites Page Potletch	37.0	Elk Creek Falls	7-5											
Total Average of sites	38.0	Morris Creek	7-6											
near Potlatch 0.4 0.2 0.0 1.3 37.8		Total Average of sites												
		near Potlatch		0.4	0.2	0.0	1.3	37.8						
*Site not trapped		*Site not trapped												